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Information technology — Machine-readable test data for biometric testing and reporting —

Part 1: Test reports

Technologies de l'information — Données d'essai lisibles par machine pour les rapports et les essais biométriques —

Partie 1: Rapports d'essai

Reference number
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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see https://patents.iec.ch).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics.*

This second edition cancels and replaces the first edition (ISO/IEC 29120-1:2015), which has been technically revised.

The main changes are as follows:

— corrections have been made to data types and syntax.

A list of all parts in the ISO/IEC 29120 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

This document is intended to enhance the utility and usability of biometric test reports and data by providing them in a common and machine-readable form. This document is intended to provide:

— documentary evidence that a product has been tested;

— a statement of authenticity of the test report;

— an ability to maintain a registry of products;

— a clear mechanism for maintaining product availability and certification status; and

— a relying system with information that allows it to depend on a biometric product used in a remote authentication context.

This document is not intended to replace traditional biometric test reports. Indeed, as such texts are essential to the complete documentation of a test, they are viewed as parents of the machine-readable content defined in the ISO/IEC 29120 series and are explicitly referenced in these reports.

Accordingly, the parts of the ISO/IEC 29120 series establish requirements for, and define formats for, signed test reports and biometric datasets as follows.

This document establishes machine-readable records for documenting the output of a biometric test. This supports the documentary reporting requirements of ISO/IEC 19795-1 and ISO/IEC 19795-2. This document is primarily intended to support scenario and technology tests. Additionally, interoperability tests may be documented by a collection of ISO/IEC 29120-1 test reports (one for each tested combination of components). The document also includes mechanisms to protect the integrity of the test report. This assures a receiving system that the test information (date, laboratory, accreditation body, manner of testing, conformance, test size, accuracy) can be relied upon and used appropriately.

As the various parts of the ISO/IEC 19795 series have been published, there has been an increasing reliance on the correct conduct of tests and their documented outputs. Although the ISO/IEC 19795 series includes extensive disclosure and reporting requirements, it does not establish definitive data formats for those pieces of information. Other data concerning the commissioning, accreditation and conducting of tests can also be valuable to consumers of the test reports. In addition, this document is intended to benefit users of biometric tests via improved:

— conformance to testing standards,

— reliability (via automation of relevant activities), and

— comparability of test results.

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Information technology — Machine-readable test data for biometric testing and reporting —

Part 1: Test reports

1 Scope

This document establishes:

— machine-readable records for documenting the output of a biometric test;

— formats for data that ISO/IEC 19795 series tests are required to report; and

— an ASN.1 syntax for test reports.

This document does not:

— require, prohibit, or otherwise specify the format of biometric samples or templates used in a test;

— require, prohibit or otherwise specify the encapsulation of biometric samples or templates used in a test; or

— regulate metrics for tests.

NOTE The reportable metrics are established in ISO/IEC 19795-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 19795-1, *Information technology — Biometric performance testing and reporting — Part 1: Principles and framework*

ISO/IEC 19795-2, *Information technology — Biometric performance testing and reporting — Part 2: Testing methodologies for technology and scenario evaluation*

ISO/IEC 19785-3, *Information technology — Common Biometric Exchange Formats Framework — Part 3: Patron format specifications*

ISO/IEC 8825-1, *Information technology — ASN.1 encoding rules — Part 1: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*

ISO/IEC 8825-4, *Information technology — ASN.1 encoding rules — Part 4: XML Encoding Rules (XER)*

ISO 8601-1, *Date and time — Representations for information interchange — Part 1: Basic rules*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19795-1 apply.

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ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Abbreviated terms

ASN	abstract syntax notation
BDB	biometric data block
BER	Basic Encoding Rules
CDF	cumulative distribution function
CMC	cumulative match characteristic
DET	detection error tradeoff
FAR	false accept rate
FTA	failure to acquire rate
FTE	failure to enrol rate
FMR	false match rate
FNIR	false-negative identification error rate
FNMR	false non-match rate
FPIR	false-positive identification error rate
FRR	false reject rate
GFAR	generalized false accept rate
GFRR	generalized false reject rate
IUT	implementation under test
XER	XML Encoding Rules

5 Conformance

A test report shall be conformant to this document if it meets all normative requirements of this document.

6 ASN.1 format

6.1 Encoding rules

The test reports specified in this document shall be encoded using the XML Encoding Rules (XER) [ISO/IEC 8825-4] or the Basic Encoding Rules (BER) [ISO/IEC 8825-1] of ASN.1.

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